Canadian Institutes of Health Research

2011–12

Departmental Performance Report

Leona Aglukkaq
Minister of Health

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Minister's Message

I am honoured to present the 2011-2012 Canadian Institutes of Health Research (CIHR) Departmental Performance Report.

The Government of Canada understands the importance of advancing health science and technology. New scientific knowledge, gained through dedicated research, helps strengthen the health-care system and creates new economic opportunities. CIHR not only facilitates important health research, it also helps translate research findings into better lives for Canadians.

To build a strong research enterprise, we need to attract and retain the brightest minds. That is why the Government of Canada has launched programs such as the Canada Excellence Research Chairs, the Vanier Canada Graduate Scholarships and the Banting Postdoctoral Fellowship programs to help support researchers at various stages of their careers. CIHR administers the Banting program on behalf of the three federal research granting councils and, in 2011-2012, awarded another 70 Banting fellowships to support top researchers from across the country and around the globe.

Over the past year, CIHR provided invaluable support as the Government of Canada responded to a range of pressing health issues. For example, CIHR responded to a shortage in the supply of medical isotopes by helping to fund research on alternative methods of production. This past February, a team of researchers announced they had developed a method of producing medical isotopes with existing cyclotrons in hospitals and clinics around the country. Earlier this year, CIHR announced a new research initiative focusing on Community-Based Primary Health Care, with support to researchers investigating issues such as access to care for vulnerable populations, chronic disease prevention, and factors contributing to improved health outcomes. Research being conducted through this initiative will help strengthen primary health services to ensure patient-centred care.

CIHR is also laying a strong foundation for the future of health research in Canada. In 2011-2012, CIHR continued to implement its five-year strategic plan, Health Research Roadmap: Creating innovative research for better health and health care. In line with this strategic plan, CIHR and the Government of Canada launched the Strategy on Patient-Oriented Research with a coalition of stakeholders from the health charities, industry, provincial and territorial governments, academic health-care organizations and faculties of medicine/health sciences.

CIHR continues to be a world-leader in promoting excellence in health research, and its cutting-edge initiatives will result in improved health outcomes in Canada, and internationally.

The Honourable Leona Aglukkaq, P.C., M.P.

Minister of Health

Section I: Organizational Overview

Raison d'être

CIHR is the Government of Canada's health research funding agency. It was created with a mandate "to excel, according to internationally accepted standards of scientific excellence, in the creation of new knowledge and its translation into improved health for Canadians, more effective health services and products and a strengthened Canadian health care system".

Responsibilities

CIHR was designed to respond to the evolving needs for health research, and this is reflected in the difference of its mandate from that of its predecessor, the Medical Research Council of Canada. CIHR's mandate seeks to transform health research in Canada by:

- funding investigator-initiated research as well as research on targeted priority areas;
- building research capacity in under-developed areas and training the next generation of health researchers; and
- focusing on knowledge translation that facilitates the application of the results of research and their transformation into new policies, practices, procedures, products and services.

CIHR Institutes: 2011-12

President: Dr. Alain Beaudet, MD, PhD

Annual Spending: $1,009.1 million
Head Office: Ottawa

Employees: 432

Scientific Directors:

Aboriginal Peoples' Health: Dr. Malcolm King

Aging: Dr. Yves Joanette

Cancer Research: Dr. Morag Park

Circulatory and Respiratory Health: Dr. Jean L. Rouleau

Gender and Health: Dr. Joy Johnson

Genetics: Dr. Paul Lasko

Health Services and Policy Research: Dr. Robyn Tamblyn

Human Development, Child and Youth Health: Dr. Shoo K. Lee

Infection and Immunity: Dr. Marc Ouellette

Musculoskeletal Health and Arthritis: Dr. Phillip Gardiner

Neurosciences, Mental Health and Addiction: Dr. Anthony Phillips

Nutrition, Metabolism and Diabetes: Dr. Philip M. Sherman

Population and Public Health: Dr. Nancy Edwards

CIHR integrates research through a unique interdisciplinary structure made up of 13 "virtual" institutes. These institutes are not "bricks-and-mortar" buildings but communities of experts. Each Institute supports a broad spectrum of research in its topic area: biomedical; clinical; health systems and services; and the social, cultural and environmental factors that affect the health of populations. Institutes form national research and knowledge translation networks linking researchers, funders and knowledge users across Canada to work on priority areas.

CIHR reports through the Minister of Health and plays a key role in the Health Portfolio, the focal point for the Government of Canada's health-related activities. As Canada's health research funding agency, CIHR makes an essential contribution to the Minister of Health's overall responsibilities by funding the research and knowledge translation needed to inform the evolution of Canadian health policy and regulation; and, by taking an advisory role on research and innovation issues. This is achieved through an extensive and growing set of linkages with Health Canada and the Public Health Agency of Canada, providing decision-makers with access to high quality and timely health research.

CIHR works closely with the Natural Sciences and Engineering Research Council (NSERC) and the Social Sciences and Humanities Research Council (SSHRC), the two Granting Councils of the Industry portfolio, to share information and co-ordinate efforts, harmonize practices, avoid duplication and foster multi-disciplinary research. The three organizations (referred to as "Tri-Council") also try to make it easier for researchers and others to interact with them, through the implementation of common policies, practices and approaches whenever possible.

CIHR's Governing Council (GC) sets the strategic directions and evaluates performance, supported by six sub-committees. Leadership on research, knowledge translation and funding for research is provided by the Science Council (SC) and leadership on corporate policy and management is provided by the Executive Management Committee (EMC).

Strategic Outcome and Program Activity Architecture (PAA)

CIHR's Program Activity Architecture (PAA), approved by Treasury Board in May 2009, is shown in Figure 1 below. The PAA consists of one Strategic Outcome and five Program Activities that support the Strategic Outcome. The performance information presented in Section II is organized according to this PAA structure.

CIHR Mandate **Excel, according to internationally accepted standards of scientific excellence, in the creation of new knowledge and its translation into improved health for Canadians, more effective health services and products and a strengthened Canadian health care system**				
Strategic Outcome 1.0 A world-class health research enterprise that creates, disseminates and applies new knowledge across all areas of health research				
Program Activity 1.1: **Health Knowledge**	**Program Activity 1.2:** **Health Researchers**	**Program Activity 1.3:** **Health Research Commercialization**	**Program Activity 1.4:** **Health and Health Services Advances**	**Program Activity 1.5:** **Internal Services**
Sub-Program Activity 1.1.1 Open Research Grant Program	Sub-Program Activity 1.2.1 Salary Support Program	Sub-Program Activity 1.3.1 Research Commercialization Programs	Sub-Program Activity 1.4.1 Institute Strategic Initiatives	
Sub-Program Activity 1.1.2 RCT* Program	Sub-Program Activity 1.2.2 Training Support Program	Sub-Program Activity 1.3.2 NCE** Program	Sub-Program Activity 1.4.2 Knowledge Translation Programs	

*RCT: Randomized Controlled Trials

**NCE: Networks of Centres of Excellence

Figure 1

Organizational Priorities

In 2009, CIHR's Governing Council approved CIHR's second Strategic Plan (2009-2014), The Health Research Roadmap: Creating innovative research for better health and health care. This Strategic Plan was the product of widespread consultations with members of the health research community, careful assessment of Canada's strengths and weaknesses, and ongoing deliberation about what CIHR would like to achieve by 2014. Roadmap sets out a vision comprised of four strategic directions aligned with CIHR's corporate, business and operational priorities.

In 2010, CIHR developed a rolling, CIHR Three-Year Implementation Plan and Progress Report for Roadmap. This plan highlights the activities CIHR will undertake over the next three years in order to achieve the strategic directions outlined in Roadmap. A refresh of this implementation is scheduled to occur on an annual basis to assess how well CIHR is moving towards its strategic goals and priorities.

Summary of Progress Against Priorities

Priority	Type	Program Activities
Invest in World-Class Research Excellence	**Ongoing**	**1.1 Health Knowledge** **1.2 Health Researchers**

CIHR initiated a process to design a new Open Suite of Programs and peer review system to maintain the long-term sustainability of CIHR's contribution to the Canadian health research enterprise, remove barriers, and enable researchers from all pillars to improve CIHR's ability to deliver on its mandate. In consultation with members of CIHR's researcher and stakeholder communities, CIHR developed a design discussion document, which outlines the proposed reforms to the Open Suite of Programs and peer review system. In early 2012, the discussion document was released to the broader research community for further consultation. CIHR received feedback from thousands of stakeholders across the country, including researchers, peer reviewers, institution administrators, professional associations and partners. CIHR will continue to engage the community as the new Open Suite of Programs and Peer Review Process design evolves.

CIHR also increased its funding envelope for Open Grants Competition to sustain a minimum of 800 new grants per year.

Priority	Type	Program Activity
Address Health and Health System Research Priorities	**Ongoing**	**1.4 Health and Health Services Advances**

The Strategy for Patient-Oriented Research (SPOR) was officially launched in August 2011 as a Signature Initiative. SPOR is a pan-Canadian partnership involving health researchers and professionals, policy makers and patients. The goal of SPOR is to provide the right clinical intervention to the right patient at the right time, ultimately leading to better health outcomes and a better health system in Canada.

In 2011-12, the Canadian Epigenetics, Environment and Health Research Consortium (CEEHRC) launched a number of competitions worth over $25 million. The overarching objective of the CEEHRC Team Grant funding is to enhance the translation of epigenetics research to health benefits. The CEEHRC is connecting existing resources and expertise to accelerate the translation of epigenetic discoveries into new diagnostic procedures and therapies.

To launch its Personalized Medicine Signature Initiative, CIHR announced its participation in the launch of a funding competition for large-scale genomics projects. The competition, conducted in

partnership with Genome Canada, will fund major projects to help improve the ability to prevent, diagnose and treat diseases and realize significant social and economic benefits. Successful projects must receive matching funding from other sources and engage end-users to have clinical utility or application. Eight of CIHR's Institutes are participating in this competition.

Priority	Type	Program Activities
Accelerate the Capture of Health and Economic Benefits of Health Research	**Ongoing**	**1.3 Health Research Commercialization** **1.4 Health and Health Services Advances**

To gather stronger evidence on the effectiveness of its funding programs, in 2011–12 CIHR began requesting that investigators submit the results of their research through the new Research Reporting System. The system will strengthen CIHR's accountability to the Government of Canada and all Canadians for the funds it provides for health research. Principal investigators will have 18 months after the end of each grant period to complete their reports, with CIHR providing ongoing support to assist them in the task. Data collected will help demonstrate the impacts of CIHR funding.

CIHR enhanced its partnership with Canada's Research-Based Pharmaceutical Companies (Rx&D) responding to the Minister of Health announcement of a renewed partnership between Rx&D and the Government of Canada for the purpose of strengthening clinical research in Canada.

In 2011-12, CIHR was successful in working with Ministries of Health across Canada to launch the Evidence Informed Healthcare Renewal (EIHR) Expedited Knowledge Synthesis and Healthcare Renewal Policy Analysis funding opportunities which incorporated key questions related to healthcare renewal raised by the Ministries.

Priority	Type	Program Activity
Achieve Organizational Excellence, Foster Ethics and Demonstrate Impact	**Ongoing**	**1.5 Internal Services**

CIHR's Governing Council commissioned a second International Review of CIHR to assess the organization's success in achieving its mandate. The review was conducted by a prestigious eleven member panel of global leaders in health research, led by Dr. Elias Zerhouni, the former Director of the U.S. National Institutes of Health. The review took place in Ottawa in February and March 2011. Dr. Zerhouni presented the panel's findings and recommendations to CIHR's Governing Council in June 2011. The Governing Council met in August 2011 to consider its response to the recommendations and to provide strategic direction to management on the development of a corresponding action plan. Governing Council will continue to provide oversight and strategic direction to management as it implements the action plan and reports on progress.

Risk Analysis

CIHR continued to proactively identify, assess and mitigate risks under the terms of the approved Risk Management Framework. The Risk Management governance structure contained in this Framework clearly defines the roles and responsibilities of Risk Owners, CIHR management, Chief Risk Officer, Governing Council, and Audit Committee. The Framework also includes CIHR's Risk Management Policy, and describes the process and reporting requirements that have been established to develop and refresh the Corporate Risk Profile.

Reform of the Open Suite of Programs is one of the significant risks actively managed by CIHR. To address this particular risk, CIHR:

- Established a governance structure for the implementation of the reforms that includes an executive Task Force, an implementation team and a Network comprised of senior staff members and subject matter experts;
- Completed an external stakeholder analysis and used the results to develop and implement an external stakeholder engagement and communication plan;
- Developed and released a design discussion document for CIHR's Open Programs and Peer Review reforms to support external engagement activities;
- Conducted a number of forums across the country with researchers and research institutions to get input and receive feedback on the proposed design; and
- Conducted a number of working sessions with University Delegates to inform the design of the open suite of programs.

While progress has been made on the approved mitigation strategies, the risk level associated with the successful reform of the Open Suite of Programs remains high. The objective of CIHR management is to reduce the level of risk in the future by continuing to engage key stakeholders in the reform process in order to further refine the design of the new Open Suite of Programs.

Summary of Performance

2011-12 Financial Resources ($ millions)

Planned Spending	Total Authorities	Actual Spending
983.4	1,015.2	1,009.1

Total Authorities:

CIHR's total Parliamentary authorities increased to $1,015.2M in 2011-12, an increase of $31.8M compared to its planned spending. The increase in Parliamentary authorities was the result of an increase to CIHR's base budget of $15.0M to support advanced health-related research such as the Strategy on Patient-Oriented Research, as announced in the Budget 2011. CIHR also received $9.3M of additional Parliamentary authorities during the 2011-12 fiscal year (via the Supplementary estimates) to fund the third round grants for the Centres of Excellence for Commercialization and Research (CECR) program, and net additional transfers from other Federal government departments totalling $2.1M to fund strategic investments in areas including HIV/AIDS, Autism, Food and Nutrition and Grand Challenges Canada. CIHR also received an additional $5.4M through technical adjustments to cover employee salaries and related benefits, unforeseen severance as a result of changes made to CIHR terms and conditions of employment and other entitlements.

Actual Spending:

In 2011-12, CIHR's expenditures totalled $1,009.1M, which was $6.1M less than its total available Parliamentary authorities. The difference encompasses the following:

- CIHR lapsed $1.9M of its total 2011-12 Grant Vote. Approximately $1.6M of this lapse occurred with respect to listed grant programs including Canada Graduate Scholarships, Vanier Canada Graduate Scholarships and Canada Excellence Research Chairs programs. CIHR is unable to reallocate unused authorities from listed grant programs to other initiatives.
- CIHR carried forward $2.1M unspent authorities of its Operating expenditure Vote to the 2012-13 fiscal year.
- CIHR absorbed $2.1M from its Operating expenditure Vote to support the appropriate level of employee benefit charges.

2011-12 Human Resources (full-time equivalents-FTEs)

Planned	Actual	Difference
428	432	(4)

No significant variance was noted between planned and actual FTEs in 2011-12.

Note: CIHR uses a peer review process to identify exemplary projects and individuals that merit funding. In 2011-12, over 2,720 peer reviewers provided their time, without remuneration, and served on 217 peer review committee meetings to review over 18,000 applications. CIHR is grateful to each of these peer reviewers for their volunteered time.

Progress Toward Strategic Outcome

Strategic Outcome #1: A world-class health research enterprise that creates, disseminates and applies new knowledge across all areas of health research		
Performance Indicators	**Targets**	**2011-12 Performance Summary**
Canadian ranking in health research intensity compared to international levels.	Maintain or increase international ranking.	Health research intensity can be measured by the overall relative expenditure on Government Budget Appropriations or Outlays for Research and Development (GBAORD). According to the Organization for Economic Co-operation and Development (OECD) from 2000 to 2008, Canada increased its investment and was ranked in the top third of the G7 countries. Canada maintained its international ranking from 2007 to 2008 in "health-related Government Budget Appropriation or Outlays for Research and Development as a percentage of the Gross Domestic Product (GDP)" [Annex A].
Canadian number and share of world health research papers.	Maintain or increase share.	The number of Canadian publications in Medical Sciences per million dollars of Gross Domestic Expenditure on Research and Development (GERD) has increased steadily over the past 10 years. In 2009, which is the last completed year, Canada was ranked second for two consecutive years [Annex B]. Additionally, Canada's world share of medical publications remained stable at nearly 5% from 2009 to 2011 [Annex C].
Number of citations of Canadian health research papers compared to international levels.	Maintain or increase international ranking.	Internationally recognized, standardized measures for citations used to determine the impact and quality of Canada's published health research is the Average of Relative Citations (ARC) and Average Relative Impact Factor (ARIF). Canada has an ARC of 1.40 which positions it in 2nd place within the G7 and 13th place worldwide. Canada's ARC has increased over the past 10 years [Annex D]. The ARIF for Canada was 1.22 in 2011 [Annex E], which is a slight increase compared to 2010. The 2011 ARIF score puts Canada in 3rd among G7 countries and in the 8th rank worldwide, compared to the 9th rank for the previous year.
Researchers per thousand workforce compared to international levels.	Maintain or increase international ranking.	A report published by the OECD in 2007 showed that the number of researchers per capita in Canada has increased steadily since 2000 when CIHR was established. In 2007, which is the last year with complete data for all the G7, Canada was ranked in 3rd position [Annex F].

Changes in health practices, programs or policies informed by CIHR-funded research.	Evidence that the work of CIHR funded researchers resulted in long-term impacts.	Reports from the Institutes and other sources show that CIHR-funded research has had a positive impact on creation and implementation of new health practices, programs and policies. For example, an estimated 18% of children have mental health problems but, due to limited health care resources, only 15–30% of them receive timely treatment. The research supported by CIHR has permitted to develop an alternative delivery model, called Strongest Families. Three CIHR-funded clinical trials conducted from 2003 to 2007 concluded that the Strongest Families program is effective in treating mild to moderate pediatric mental health disorders. The program now operates in four of Nova Scotia's nine district health authorities, and is expanding to communities across the country.
Diversity of research supported (by theme and Institute)	Maintain diversity of funding and increase funding in priority areas.	CIHR continues to support an increasing number of health researchers and trainees, thus steadily contributing to building Canada's health research capacity. Since CIHR's inception, the number of CIHR-supported health researchers and trainees has grown from approximately 6,000 in 2000-01 to over 13,000 in 2011-12. [Annex G]. In 2011-12, CIHR continued to fund all areas of health research by primary themes, and Institute-specific research area [Annex H].

Performance Summary, Excluding Internal Services

Program Activity	2010–11 Actual Spending ($ millions)	2011–12 ($ millions)				Alignment to Government of Canada Outcome
		Main Estimates	Planned Spending	Total Authorities	Actual Spending	
1.1 Health Knowledge	468.5	444.0	444.0	450.3	470.5	Healthy Canadians [1]
1.2 Health Researchers	195.7	204.7	204.7	205.0	182.8	Healthy Canadians [1]
1.3 Health Research Commercialization	53.1	45.9	45.9	55.3	56.0	Healthy Canadians [1]
1.4 Health and Health Services Advances	275.4	261.6	261.6	274.7	268.0	Healthy Canadians [1]
Total	**992.7**	**956.2**	**956.2**	**985.3**	**977.3**	

Performance Summary for Internal Services

Program Activity	2010–11 Actual Spending ($ millions)	2011–12 ($ millions)			
		Main Estimates	Planned Spending	Total Authorities	Actual Spending
1.5 Internal Services	34.2	27.2	27.2	29.9	31.8
Total	**1,026.9**	**983.4**	**983.4**	**1,015.2**	**1,009.1**

Strategic Environmental Assessment

During 2011-12, CIHR considered the environmental effects of initiatives subject to the Cabinet Directive on the Environmental Assessment of Policy, Plan and Program Proposals and did not produce any public statements.[ii]

Expenditure Profile

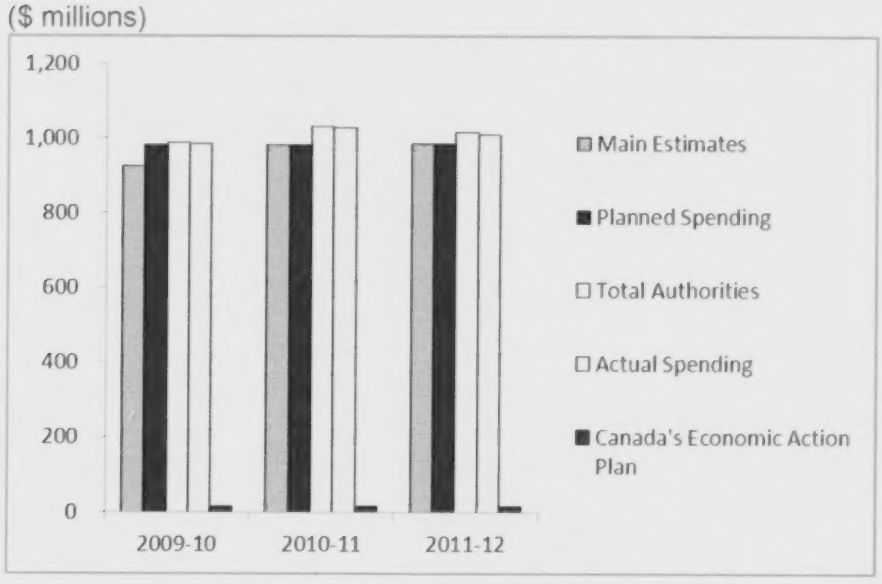
This graph represents the trend for planned and actual spending over time against total Parliamentary authorities, including Canada's Economic Action Plan (CAEP) initiatives, as laid out in the Government of Canada's 2011 Budget, that had an impact on the organization's overall spending.

More precisely, the 2011 Budget included investments in innovation, as described below:

- A $15 million permanent budget increase for CIHR to support advanced health-related research such as the Strategy on Patient-Oriented Research; and
- A new investment of $53.5 million over 5 years to support 10 new Canada Excellence Research Chairs.

Offsetting these investments is the third year of the implementation of Budget 2008 Strategic Review. CIHR's budget was reduced by $22.1 million for 2011-12 and ongoing.

Departmental Spending Trend



Estimates by Vote

For information on CIHR's organizational Votes and/or statutory expenditures, please see the Public Accounts of Canada 2012 (Volume II). An electronic version of the Public Accounts 2012 is available on the Public Works and Government Services Canada's website, Public Accounts of Canada 2012.[iii]

Section II: Analysis of Program Activities by Strategic Outcome

Strategic Outcome #1:

A world-class health research enterprise that creates, disseminates and applies new knowledge across all areas of health research

CIHR supports health research in order to improve the health of Canadians and to deliver more effective health care services to Canadians by:

- Creating health knowledge which leads to the development of new and better ways to improve health; and, prevent, diagnose and treat disease;
- Ensuring Canada has top quality health researchers who can conduct health research;
- Fostering commercializing research discoveries; or,
- Creating new knowledge in strategic priority areas and its translation into improved health and a strengthened health system.

Program Activity 1.1: Health Knowledge

Program Activity Description

As of June 2009, CIHR's Randomized Controlled Trials Program has been integrated into the Open Research Grant Program. The Open Research Grant Program provides operating funds to support research proposals in all areas of health research, including randomized controlled trials research. The program aims to support the creation of new knowledge across all areas of health research, and to improve health and the health system. This is achieved by managing CIHR's open competition and related peer review processes based on internationally accepted standards of scientific excellence.

2011-12 Financial Resources ($ millions)

Planned Spending	Total Authorities	Actual Spending
444.0	450.3	470.5

Total Authorities:

Total authorities for this program activity increased by $6.3M during the fiscal year; $5.1M of which was allocated from the ongoing $15.0M budget increase afforded to CIHR in the Budget 2011 to sustain research excellence by increasing funding for the Open Operating Grant Program (OOGP). The remaining increase was the result of technical adjustments to cover employee salaries and related benefits and severance payouts.

Actual Spending:

Actual spending associated with this program activity was higher than total authorities by $20.2M largely as a result of the re-allocation of unspent funds from the Canada Research Chairs Program (under Program Activity 1.2: Health Researchers) to the Open Operating Grant Program due to challenges encountered by universities in filling the Chair positions.

2011-12 Human Resources (FTEs)

Planned	Actual	Difference
85	85	-

Program Activity Performance Summary

Expected Results	Performance Indicators	Targets	Actual Results
Health research advances knowledge.	A. Outputs and impacts of CIHR-funded research.	i. Maintain or increase the number of publications from CIHR-supported research	2,858 Publications*
		ii. Maintain or increase Knowledge Translation activities of CIHR-funded researchers	6,444 KT Activities**
		iii. Maintain or increase CIHR expenditures in funding programs	Increased expenditures to $459.7 million***

** This is the first year CIHR is reporting results for targets A (i) and A (ii) using the research reporting system. CIHR is working with applicants to confirm data is entered into the appropriate areas.*

*** KT activities could include number of published journal articles, number of invited and others presentations, number of interviews in mass media (includes, print, broadcast, and internet).*

**** This target, originally reported as maintain or increase CIHR total number and average dollar value of grants funded, was changed to maintain consistency and ease in interpreting results*

Performance Summary and Analysis of Program Activity

CIHR recently received data from Research Reporting System (RRS), which is an end-of-grant reporting module collecting information from CIHR-funded researchers on the results of their grant(s). The initial launch of the RRS has focused solely on the CIHR's Open Operating Grant Program (OOGP); other funding programs are now being added to the RRS process.

Performance Indicator A:

i. For target A (i), data from RRS for grants with expiry dates between April 1st, 2009 and March 31, 2012 produced 2,858 journal publications. The average number of publications per grant for this period was 9.9. [Annex I]

ii. In terms of target A (ii), data from RRS for grants with expiry dates between April 1, 2009 and March 31, 2012 indicated 6,444 KT activities were completed by researchers including 5,005 presentations and 1,439 interviews. [Annex I] The average number of KT activities per grant was 17.3 for presentations and 5.0 for interviews for this period.

iii. CIHR spent $459.7 million in the Open Research Grant Program in 2011-12 as compared to $458.0 million in 2010-11, an increase of 0.4%. In 2011-12, CIHR supported 3,946 grants through the Open Research Grant Program as compared to the 4,047 reported in 2010-11. The average annual value of grants supported increased from $113,169 in 2010-11 to $116,507 in 2011-12. [Annex J].

Lessons Learned

Researchers have cited a need to reduce applicant and peer reviewer burden. CIHR has initiated a process to design a new Open Suite of Programs and peer review system and the proposed reforms will address these concerns.

Program Activity 1.2: Health Researchers

Program Activity Description

Programs under Program Activity 1.2 include CIHR's Salary Support Programs, which provide salary support to help new health researchers develop their careers and devote more time to initiating and conducting health research; and, its Training Support Programs, which provide support and special recognition to Master's, Doctorate, Post-doctorate or post-health professional degree students in Canada. In addition, CIHR jointly administers Tri-Council programs, including the Canada Research Chairs Program, the Canada Excellence Research Chairs Program, the Canada Graduate Scholarship Program (CGS), the Vanier CGS Program; and, the Banting Postdoctoral Fellowship Program. Together, these programs aim to build health research capacity to improve health and the health system by supporting the training and careers of excellent health researchers through a competitive peer review process based on internationally accepted standards of scientific excellence.

2011-12 Financial Resources ($ millions)

Planned Spending	Total Authorities	Actual Spending
204.7	205.0	182.8

Total Authorities:

Overall, total authorities for Program Activity 1.2 remained at the same level compared to Main Estimates.

Actual Spending:

Actual spending was $22.2M less than total authorities due primarily to the in-year re-allocation of unspent authorities from the Canada Research Chairs program to the Open Operating Grants program (under Program Activity 1.1: Health Knowledge).

2011-12 Human Resources (FTEs)

Planned	Actual	Difference
32	34	(2)

Program Activity Performance Summary

Expected Results	Performance Indicators	Targets	Actual Results
A strong and talented health research community with the capacity to undertake health research.	A. Number of graduate trainees in Canada compared to international levels.	i. Maintain or increase international ranking	Increased international ranking*

	B. Number and fields of investigators and trainees funded.	i. Maintain number and diversity (by theme and Institute domain) of trainees funded	2,797 Investigators and trainees funded in all areas of research in all themes

** This performance indicator, originally reported as Number, types and share of graduate trainees in Canada compared to international levels, was changed due to the unavailability of data on the share and types of graduate trainees.*

Performance Summary and Analysis of Program Activity

Performance Indicator A:

i. PhD graduates in Canada per 100,000 population aged 25-29 increased from 191 in 2005 to 232 in 2009 (based on latest available information from OECD study). Canada has increased its ranking relative to international levels [Annex K].

Performance Indicator B:

i. In 2011-12 CIHR continued to support diversity by funding excellence in all areas of health research by theme and Institute-specific research area. The total number of investigators supported by CIHR decreased from 3,381 in 2010-11 to 2,797 in 2011-12 [Annex L]. The relative drop of researchers and trainees supported by CIHR in 2011-12 was attributable to the temporary funding from Government of Canada's Economic Action Plan (EAP) coming to an end, which had provided for an additional 400 Canada Graduate Scholarship (CGS) masters scholarships in 2009 and 2010 competitions. EAP also provided for an additional 200 doctoral scholarships in 2009 which will be funded over the following three years.

Lessons Learned

The International Review panel (IRP) recommended CIHR work with the nation's universities to enhance the career paths of its young investigators with particular attention paid to clinical investigators who must balance clinical service obligations with research. CIHR's new training strategy will consider how best to prepare trainees for the various career paths open to them. CIHR will continue to explore how best to work with universities and health research institutes to build a sustainable pipeline of talent at all career stages.

Program Activity 1.3: Health Research Commercialization

Program Activity Description

Programs under Program Activity 1.3 include the suite of Research Commercialization Programs, which aim to support the creation of new knowledge, practices, products and services and to facilitate the application of this knowledge and the Tri-Council Networks of Centres of Excellence (NCE) Program which partners centres of research excellence with industry capacity and resources and strategic investment to turn Canadian research and entrepreneurial talent into economic and social benefits for Canada. Overall, these programs aim to support and facilitate the commercialization of health research to improve health and the health system. This is achieved by managing funding competitions to provide grants, in partnership with the private sector where relevant, and using peer review processes based on internationally accepted standards of scientific excellence, and by building and strengthening the capacity of Canadian health researchers to engage in the commercialization process.

2011–12 Financial Resources ($ millions)

Planned Spending	Total Authorities	Actual Spending
45.9	55.3	56.0

Total Authorities:

Overall, CIHR supported the commercialization of health research in Canada, and contributed towards increased access to innovative and effective health products, programs and technologies. Total authorities for this program activity increased by $9.4M compared to the 2011-12 Main Estimates. This increase is due to $9.3M received to fund the third round of grants for the Centres of Excellence for Commercialization and Research (CECR) program as well as $0.1M received for the College and Community Innovation (CCI) program.

Actual Spending:

No material differences were noted in actual spending versus total authorities for this program activity.

2011–12 Human Resources (FTEs)

Planned	Actual	Difference
6	7	(1)

Program Activity Performance Summary

Expected Results	Performance Indicators	Targets	Actual Results
Commercial activity – products (patents and intellectual property), companies and employment generated.	A. Health research is commercialized more effectively.	i. Maintain or increase CIHR expenditures in funding programs	Increased spending to $55.3 million*
		ii. Evidence of commercialization outcomes, such as: patents, licenses, copyrights, centres; new products or processes; policies influenced or created; and/or influence on health delivery	163 (74%) commercialization focused grants yielded commercialization outcomes**
	B. Strong linkages and partnerships created between universities, governments, industry and other users.	i. Maintain or increase dollar amount of CIHR partner investments	Increased spending to $123.8 million
		ii. Evidence of successful linkages and partnerships created as a result of the NCE Program	Evidence confirms on target

** This target, originally reported as maintain or increase CIHR total number and average dollar value of grants funded, was changed to maintain consistency and ease in interpreting results.*

*** This target, originally reported as maintain or increase number of patents, licenses, copyrights, centres; new products or processes; policies influenced or created; influence on health delivery, was changed due to the unavailability of consistent reporting data. The original target will be reconsidered upon the full implementation of CIHR's end-of-grant reporting system.*

Performance Summary and Analysis of Program Activity

Performance Indicator A:

i. In 2011-12, CIHR spent $16.8M in CIHR's suite of Research Commercialization Programs as compared to $14.0M in 2010-11, an increase of 20%. For the NCE Program, CIHR administered $38.6M in 2011-12 which is equivalent to the 2010-11 level. CIHR funded 181 grants through the Research Commercialization Programs, equivalent to 2010-11. CIHR's investments in research commercialization programs increased significantly in 2011-12, driven by the average dollar value of grants funded which increased by 21% from $76,695 to $92,549. For the NCE Program, CIHR funded 18 grants and awards in 2011-12 compared to 16 in 2010-11 [Annex M].

ii. CIHR's Proof-of-Principle Program aims to facilitate and improve the commercial transfer of knowledge and technology resulting from academic health research for the benefit of Canadians. Final reports from the Proof-of-Principle Program are submitted 18 months after the term of the grant. An analysis of 220 reports found that 162 funded grants resulted in new patents; 60 resulted in the licensing of intellectual property; and 30 resulted in the creation of new companies.[1]

Other reports from the program managers and other sources show that CIHR-funded research has had a positive impact on the commercialization of new health products, For example:

- The Centre for Commercialization of Regenerative Medicine (CCRM) which is funded in part by CIHR, recently partnered with EMD Millipore, the Life Science division of Merck KGaA, to develop optimized conditions for the cultivation of stem cells at the University of Toronto's Banting Institute.

- The Centre for Probe Development and Commercialization (CPDC) which is funded in part by CIHR will be manufacturing a new targeted radiopharmaceutical, designed to deliver a therapeutic dose of radiation directly to metastatic prostate cancer. This targeted treatment method, that could selectively deliver high doses of radiation to tumours that have spread throughout the body, has the potential to open new options for treating metastatic prostate disease.

Performance Indicator B:

i. Overall, CIHR maintained strong linkages and partnerships with external partners from the voluntary, private and provincial health research funding sectors. Total external partner contributions increased from $118.7 million to $123.8 million in 2011-12 [Annex N].

ii. Reports from program managers and other sources show that partnerships fostered by NCE Program continued to deliver results that led to commercialization activities. For example:

The University of British Columbia (UBC) has entered a collaborative research agreement with Cangene Corporation to develop the work of the Scientific Director of PrioNet Canada, Canada Research Chair in Neurodegeneration and Protein Misfolding and a scientist at the Vancouver Coastal Health Research Institute. That work, supported by PrioNet (a Network of Centres of

[1] One funded grant can generate and be counted under more than one commercialization outcome.

Excellence for research on prion disease and related neurodegenerative disorders), focuses on identifying and validating targets for treating various neurological diseases. Recently, the Scientific Director along with other PrioNet researchers, was able to specifically target a unique shape of amyloid beta "oligomers"—small aggregates that play a key role in the progression of Alzheimer's—while sparing normal amyloid beta molecules. The collaboration with Cangene is aimed at developing immune-based therapies for Alzheimer's disease.

Lessons Learned

CIHR recognizes the importance of building a strong collaborative linkage between health research and industry and will further discuss the key role it will play in making sure the impact of funded programs can address significant research challenges. A key finding of a 2012 evaluation of the Centres of Excellence for Commercialization and Research Program (CECR) funded in 2008/09 highlighted that a longer timeframe is required for research benefits to be realized. A new commercialization strategy that will address relations with industry is in the early stages of discussion at CIHR. This strategy will look at means to foster investigator-initiated innovation and to accelerate commercialization of health research.

Program Activity 1.4: Health and Health Services Advances

Program Activity Description

Programs under Program Activity 1.4 include CIHR's suite of Knowledge Translation Programs, which aim to support the synthesis, dissemination, exchange and ethically sound application of knowledge in areas of health research; as well as its Institute Strategic Initiatives Program, which supports researchers and trainees in strategic priority areas to address health opportunities, threats and challenges for Canadians. Through the competitive peer review process based on internationally accepted standards of scientific excellence; these programs aim to support the creation of new knowledge in strategic priority areas and its translation into improved health and a strengthened health system.

2011–12 Financial Resources ($ millions)

Planned Spending	Total Authorities	Actual Spending
261.6	274.7	268.0

Total Authorities:

Overall, programs under Activity 1.4, Health and Health Services Advances, successfully contributed towards the creation of new knowledge in strategic priority areas and its translation into improved health. Total authorities increased by $13.1M over planned spending for the 2011-12 fiscal year.

CIHR invested a significant portion of the ongoing budget increase ($9M of the $15M increase) that was announced in Budget 2011 towards one of its key strategic initiatives, CIHR's Strategy for Patient-Oriented Research initiative to improve patient outcomes.

Furthermore, total authorities included an additional $4.1M resulting from transfers from other federal government departments to expand key strategic research initiatives including autism, population health disparities, HIV/AIDS research, and food and nutrition research and advancing theoretical and methodological innovation.

Actual Spending:
Actual spending associated with this program activity was lower than total authorities by $6.7M due to operating restraint measures and lower than anticipated grant expenditures incurred in targeted research initiatives, notably the Canadian Longitudinal Study on Aging.

2011–12 Human Resources (FTEs)

Planned	Actual	Difference
112	111	1

Program Activity Performance Summary

Expected Results	Performance Indicators	Targets	Actual Results
Translation and use of health research takes place as a result of effective funding programs.	A. Outputs and impacts of CIHR-funded research	i. Maintain or increase CIHR expenditures in funding programs	Decreased spending to $255.9 million*
		ii. Maintain or increase KT activities of CIHR-funded researchers	Results not yet available, but number of KT grants increased to 671**
	B. Institute leadership within the research community	i. Evidence of Institutes identifying and responding to national and international health threats and opportunities	Evidence confirms on target

** This target, originally reported as maintain or increase CIHR total number and average dollar value of grants funded, was changed to maintain consistency and ease in interpreting results.*

*** The roll-out of the RRS to strategic funding began in 2011-12 and data are not yet available. KT activities could include number of published journal articles, number of invited and others presentations, number of interviews in mass media (includes, print, broadcast, and internet).*

Note: The target Maintain or increase number of publications from CIHR-funded research for Performance Indicator A was removed due to the unavailability of consistent reporting data for this program activity. The target will be reconsidered upon the full implementation of CIHR's end-of-grant reporting system.

Performance Summary and Analysis of Program Activity

Performance Indicator A:

i. In 2011-12, CIHR spent $228.2 million on its Institute Strategic Initiatives as compared to $238.9 million in 2010-2011, a decrease of 4%. CIHR spent $27.8 million in 2011-12 on its Knowledge Translation Programs as compared to $24.8 million in 2010-2011, an increase in expenditures of 12%. [Annex O].

CIHR funded 2,260 Institute Strategic Initiative grants and awards with an average value of $100,968 in 2011-12 compared to 2010-2011 where 2,585 grants and awards were funded with an average value of $92,410. The total number of grants decreased by 13% for the Institute Strategic Initiatives program compared to the previous year.

ii. A total of 671 grants and awards were funded in 2011-12 for the Knowledge Translation Programs which represented an increase of about 1% with an average value of $41,365 compared to $37,524 in 2010-2011 [Annex O]. Overall, Knowledge Translation programs supported excellence in all areas of health research by theme and the largest increases in dollars and number of grants occurred in the Health systems/services and Social/Cultural/Environmental/Population Health areas [Annex P].

Performance Indicator B:

i. Reports from program managers and other sources show that CIHR's Institutes increased their efforts to engage the public and take the lead in responding to existing and emerging health issues. For example:

In February, 2012, a team led by TRIUMF and partly funded by CIHR announced the successful production of the key medical isotope technetium-99m on cyclotrons already available in Ontario and British Columbia. This development will allow hospitals and clinics with existing cyclotrons to make the isotope which is traditionally only available from nuclear reactors. This development addresses the issue of the availability of this medical isotope.

CIHR participated in the launch of the European Union Joint Programme - Neurodegenerative Disease Research (JPND) in February 2012. Canada was the only country outside of Europe to attend. This meeting addressed the CIHR International Collaborative Research Strategy for Alzheimer's Disease (ICRSAD) Signature Initiative.

Lessons Learned

In response to concerns and feedback from our stakeholder communities and direction from Governing Council, CIHR has embarked on changes to prioritize research that can improve health and health care. By having fewer more targeted and focused initiatives, CIHR anticipates a greater likelihood of achieving impact on the health of Canadians by leveraging areas of health enterprise strength and/or addressing gaps in specific research areas.

Program Activity 1.5: Internal Services

Program Activity Description

Internal Services are groups of related activities and resources that are administered to support the needs of programs and other corporate obligations of an organization. These groups are: Management and Oversight Services; Communications Services; Legal Services; Human Resources Management Services; Financial Management Services; Information Management Services; Information Technology Services; Real Property Services; Material Services; Acquisition Services; and Travel and Other Administrative Services. Internal Services include only those activities and resources that apply across an organization and not to those dedicated to specific requirements of a program.

2011-12 Financial Resources ($ millions)

Planned Spending	Total Authorities	Actual Spending
27.2	29.9	31.8

Total Authorities:

In 2011-12, CIHR continued to strengthen its operational and programming capability while fostering a dedicated, well-informed workforce. Total authorities for this program activity increased by $2.7M during the fiscal year due to employee salaries and related benefits as well as unforeseen severance and other entitlements.

Actual Spending:

Actual spending was slightly higher than total authorities by $1.9M primarily due to the fact that the authorities for unforeseen severance and other entitlements were distributed across all program activities while actual spending was fully allocated to internal services.

2011-12 Human Resources (FTEs)

Planned	Actual	Difference
193	195	(2)

Performance Summary and Analysis of Program Activity

In 2011, CIHR rolled out the Electronic Records and Document Management System (InfoNet) pilot to six CIHR units as well as introduced InfoNet which will allow CIHR to better manage its electronic information. Other enhancements to our capabilities in 2011 included the implementation of ServiceDesk software on External Help Desk, Internal Help Desk and Administration. This improves the efficiency and effectiveness of processes that provide support to the research community.

In 2011-12, CIHR launched a new publication and online presence called *Show Me the Evidence*, a regular roundup of stories describing research that is directly contributing to improved health and health care and which was supported by CIHR-funds.

In 2011-12, CIHR was named one of the National Capital Region's Top 25 Employers. This recognition demonstrates the CIHR's commitment to its employees and helps in its ongoing efforts to attract talent and strengthen its position as an employer of choice.

Lessons Learned

CIHR recognizes improvements to Internal Services that support efficient and effective administration of programs and services are paramount to its continued success. Other areas being worked on include enhancing reporting capability and data architecture. International Review Panel recommendations will provide valuable insights as we set our sights on strengthening our Internal Services operations to meet the needs of researchers and the research community.

Section III: Supplementary Information

Financial Highlights

Condensed Statement of Financial Position (Unaudited) As at March 31, 2012 ($ millions)			
	Change %	**2011–12**	**2010–11**
Total liabilities	(34.9%)	15.1	23.2
Total financial assets	(20.0%)	10.8	13.5
Departmental net debt	(55.7%)	4.3	9.7
Total non-financial assets	(20.8%)	3.8	4.8
Departmental net financial position	89.8%	(0.5)	(4.9)

Condensed Statement of Operations and Departmental Net Financial Position (Unaudited) For the Year Ended March 31, 2012 ($ millions)			
	Change %	**2011–12**	**2010–11**
Grants and awards	(1.3%)	965.3	978.3
Refunds of previous year's grants and awards	38.1%	5.8	4.2
Operating expenses	(7.4%)	61.0	65.9
Total expenses	(1.9%)	1,020.5	1,040.0
Total revenues	29.8%	14.8	11.4
Net cost of operations before government funding	(2.2%)	1,005.7	1,028.6
Departmental net financial position	89.8%	(0.5)	(4.9)

Condensed Statement of Financial Position

Total liabilities and total financial assets decreased by $8.1M and $2.7M, respectively, as compared to 2010–11, having a positive impact on the Departmental net debt. These corresponding decreases resulted directly from the following:

- Changes to the Terms and Conditions of employment of CIHR executives and non-represented employees, whereby the accumulation of severance benefits ceased for these employees on October 1, 2011, resulting in a decreased liability of $5.6M;
- Cost containment measures implemented at CIHR to control expenditures, resulted in a decreased liability of $1.3M;

- CIHR funded $3.3M of additional research grants and awards from external party monies resulting in a decreased liability of $1.2M;

Total non-financial assets decreased by $1.0 M as a direct result of the reductions noted above for liabilities.

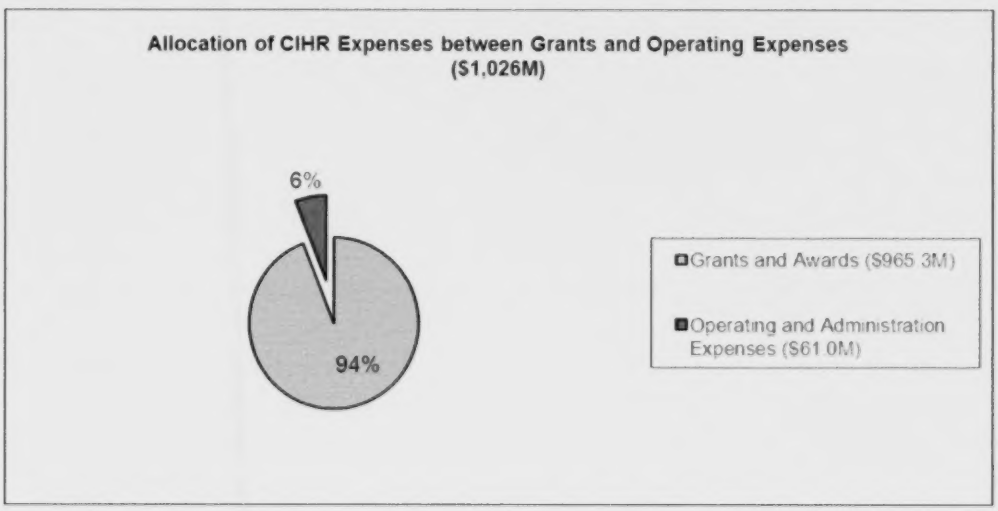
Condensed Statement of Operations and Departmental Net Financial Position

Overall, total expenses and net cost of operations before government funding decreased by $19.5M and $22.9M respectively, as compared to 2010–11. These corresponding decreases are mostly attributable to the 1.4% decrease in Parliamentary authorities provided by the Government of Canada following the 2008 Strategic Review exercise.

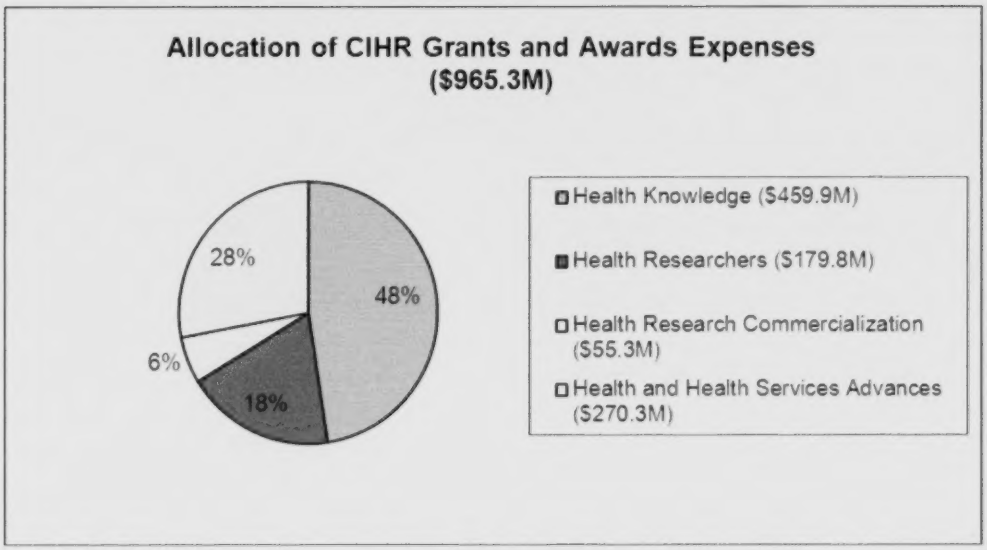
Grants and awards decreased by 1.3% (or $13M) primarily due to the ending of temporary funding for the Canada Graduate Scholarship program and to the sunsetting of the Pandemic Preparedness Strategic Research Initiative ($6M).

Total operating expenses decreased by 7.4% (or $4.9M) primarily due to decreased professional and special services ($3.1M) and employee salaries and benefits ($1.8M), as CIHR established an integrated operational planning process and a vacancy management process to implement fiscal restraint measures.

Financial Highlights Charts and/or Graphs


Allocation of CIHR Expenses between Grants and Operating Expenses ($1,026M)
6%
94%
Grants and Awards ($965.3M)
Operating and Administration Expenses ($61.0M)

As evidenced above, CIHR spent 94% of its available resources directly to funding health research CIHR's primary goals are to fund the improvement of health and the health system through the creation of new knowledge across all areas of health research, to build health research capacity by supporting the training and careers of excellent health researchers, to support and facilitate the commercialization of health research, and to support the creation of new knowledge in strategic priority areas and its translation into improved health and a strengthened health system.



As demonstrated by the aforementioned chart, a significant portion of CIHR's grants and awards expenses are incurred to fund programs included under the Health Knowledge program activity including the Open Operating Grant Program to support the best health research and sustain research excellence.

CIHR allocates a large portion of its budget to fund programs under the Health and Health Services Advances program activity. These investments support the best research and researchers through targeted initiatives aligned with CIHR's strategic directions. These strategic investments address emerging health threats and other important health issues of concern to Canadians, including obesity, cancer, vulnerable populations, HIV/AIDS and patient-oriented research. Knowledge translation programs also form a significant portion of Health and Health Services Advances program activity. Knowledge Translation (KT) is a critical and growing part of CIHR's mandate focused on the synthesis, exchange and ethically-sound application of knowledge to accelerate the capture of the benefits of research for Canadians through improved health, more effective services and products and a strengthened health care system. A large portion of the program activity is also allocated to fund programs under the Strategy for Patient-Oriented Research initiative, a strategy implemented to support the translation of innovative diagnostic and therapeutic approaches to the point of care, as well as to help provinces and territories meet the challenge of delivering high quality, cost-effective health care.

Grants and awards expenses related to the Health Researchers program activity are designed to support the best researchers in health research. Key programs such as the Canada Research Chairs Program, Canada Graduate Scholarships (CGS) Program, Banting Fellowships program, Vanier CGS program and the Canada Excellence Research Chairs Program will help Canada attract and retain some of the world's most accomplished and promising minds.

CIHR funds research commercialization programs, such as the Networks of Centres of Excellence Program and the Centres of Excellence for Commercialization and Research Program, to catalyze innovation and help transform today's research discoveries into tomorrow's health solutions

Financial Statements

CIHR's 2011-12 Audited Financial Statements can be found on the CIHR website and form an integral part of the Annual Report. Included with this year's audited financial statements are the:

1. Statement of Management Responsibility Including Internal Control Over Financial Reporting;
2. Financial Statements and notes; and
3. Annex: Summary of the Assessment of Effectiveness of the Systems of Internal Control (with Action Plan).

List of Supplementary Information Tables

Electronic supplementary information tables listed in the 2011–12 Departmental Performance Report can be found on CIHR website.[iv]

- Details on Transfer Payment Programs
- Greening Government Operations
- Internal Audits and Evaluations
- Sources of Respendable and Non-Respendable Revenue

Section IV: Other Items of Interest

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Additional Information

Web Links:

CIHR: **http://www.cihr-irsc.gc.ca/e/193.html**
13 institutes: **http://www.cihr-irsc.gc.ca/e/9466.html**
Minister of Health: **http://hc-sc.gc.ca/ahc-asc/minist/index-eng.php**
Natural Sciences and Engineering Research Council: **http://www.nserc-crsng.gc.ca/**
Social Sciences and Humanities Research Council: **http://www.sshrc-crsh.gc.ca/Default.aspx**
Health Research Roadmap: **http://www.cihr-irsc.gc.ca/e/40490.html**
Three-year implementation plan and progress report: **http://www.cihr-irsc.gc.ca/e/153.html**
Risk Management Framework: **http://www.cihr-irsc.gc.ca/e/41098.html**
Corporate Risk Profile: **http://www.cihr-irsc.gc.ca/e/43079.html**
Canada's Economic Action Plan: **http://www.actionplan.gc.ca/en**

Endnotes

i. Whole-of-Government Framework, http://publiservice.tbs-sct.gc.ca/ppg-cpr/framework-cadre-eng.aspx?Rt=1039

ii. Cabinet Directive on the Environmental Assessment of Policy, Plan and Program Proposals, http://www.ceaa.gc.ca/default.asp?lang=En&n=B3186435-1

iii. Public Accounts of Canada 2012, http://www.tpsgc-pwgsc.gc.ca/recgen/txt/72-eng.html

iv. Canadian Institutes of Health Research, http://www.cihr-irsc.gc.ca/e/45834.html